

c) Amendments to the Claims

Please cancel claims 16-30 and 46-57 without prejudice or disclaimer of subject matter. Kindly amend claims 1 and 6-11 as follows. A detailed listing of all the claims is provided.

1. (Currently Amended) A method of producing a zinc oxide thin film comprising passing a current between a conductive substrate immersed in an aqueous solution containing at least zinc ions, ammonium ions and a complex of zinc and ammonia complex ions, and an electrode as an anode immersed in the aqueous solution to form a zinc oxide thin film on the conductive substrate.

2. (Original) A method of producing a zinc oxide thin film according to Claim 1, wherein the conductive substrate comprises a support and a transparent conductive layer deposited thereon.

3. (Original) A method of producing a zinc oxide thin film according to Claim 1, wherein the hydrogen ion concentration of the aqueous solution is controlled in the range of pH 8 to pH 12.5.

4. (Original) A method of producing a zinc oxide thin film according to Claim 1, wherein the hydrogen ion concentration of the aqueous solution near the

uppermost surface in which the zinc oxide thin film is formed is controlled in the range of pH 6 to pH 8.

5. (Original) A method of producing a zinc oxide thin film according to Claim 1, wherein the aqueous solution contains a hydrocarbon.

6. (Currently Amended) A method of producing a photovoltaic ~~device~~ member comprising the steps of:

forming a zinc oxide thin film on a conductive substrate immersed in an aqueous solution containing at least zinc ions, ammonium ions and a complex of zinc and ammonia ~~complex~~ ions by passing a current between the conductive substrate and an electrode as an anode immersed in the aqueous solution; and forming a semiconductor layer.

7. (Currently Amended) A method of producing a photovoltaic ~~device~~ member according to Claim 6, wherein the conductive substrate comprises a support and a transparent conductive layer deposited thereon.

8. (Currently Amended) A method of producing a photovoltaic ~~device~~ member according to Claim 6, wherein the hydrogen ion concentration of the aqueous solution is controlled in the range of pH 8 to pH 12.5.

9. (Currently Amended) A method of producing a photovoltaic ~~device~~ member according to Claim 6, wherein the hydrogen ion concentration of the aqueous solution near the uppermost surface in which the zinc oxide thin film is formed is controlled in the range of pH 6 to pH 8.

10. (Currently Amended) A method of producing a photovoltaic ~~device~~ member according to Claim 6, wherein the aqueous solution contains a hydrocarbon.

11. (Currently Amended) A method of producing a semiconductor device substrate comprising passing a current between a conductive substrate immersed in an aqueous solution containing at least zinc ions, ammonium ions and a complex of zinc and ammonia ~~complex~~ ions, and an electrode as an anode immersed in the aqueous solution to form a zinc oxide thin film on the conductive substrate.

12. (Original) A method of producing a semiconductor device substrate according to Claim 11, wherein the conductive substrate comprises a support and a transparent conductive layer deposited thereon.

13. (Original) A method of producing a semiconductor device substrate according to Claim 11, wherein the hydrogen ion concentration of the aqueous solution is controlled in the range of pH 8 to pH 12.5.

14. (Original) A method of producing a semiconductor device substrate according to Claim 11, wherein the hydrogen ion concentration of the aqueous solution near the uppermost surface in which the zinc oxide thin film is formed is controlled in the range of pH 6 to pH 8.

15. (Original) A method of producing a semiconductor device substrate according to Claim 11, wherein the aqueous solution contains a hydrocarbon.

Claims 16. - 57. (Cancelled)